

2000 Montana Report Natural Resources Conservation Activities



"The greatest profit potential with this land was in grazing," said Calvin Bohleen, a Park County, Montana, rancher. "What was missing all along was water. Our WHIP project fixed that. Basically, we got 800 head of cattle off the creek and river during critical times. We didn't like having the cattle down in the creek bottom during calving. It's not healthy for them or the riparian area."

Land, Water and People



Natural
Resources
Conservation
Service

Federal Building, Room 443
10 East Babcock
Bozeman, MT 59715
(406) 587-6811
www.mt.nrcs.usda.gov

Dear Montanans,

With pride, I present the 2000 Montana Natural Resources Conservation Service (NRCS) annual report of conservation accomplishments. The information contained in this report illustrates the strong commitment Montana land users have for conservation stewardship.

As you can see, this has been another exceptional year in resource conservation treatment. These accomplishments to protect our soil, water, and related resources are a direct result of land user commitment coupled with assistance provided from the conservation partnership made up of the state's 62 conservation districts; the Montana Association of Conservation Districts; the Montana Department of Natural Resources and Conservation, Conservation and Resource Development Division; and the seven Resource Conservation and Development areas.

The conservation partnership is fully committed to locally led conservation as the most effective way to help individual land owners, land users, and communities achieve their resource conservation objectives.

Many thanks to the conservation partnership members who are dedicated to conserving Montana's natural resources.

Sincerely,

A handwritten signature in cursive script that reads "Shirley Gammon".

Shirley Gammon
State Conservationist

NRCS Mission

To provide leadership in a partnership effort to help people conserve, improve, and sustain our natural resources and environment.

NRCS Vision

A productive nation in harmony with a quality environment

Additional Water Gives Ranchers Flexibility

Things aren't always easy on Easy Street, just ask Calvin and Suzanne Bohleen, Park County ranchers who have lived on Easy Street since the Montana town of Wilsall added names to all its streets. They'll probably tell you how hard it is to find grazing land for their cattle during a hot, dry summer like the summer of 2000. What they will admit as easier is providing water for their cattle. Developing an off-stream water source became the perfect solution for helping the Bohleens and five other ranchers manage their grazing land and provide water for their cattle, while improving area creeks and riparian areas.

Using NRCS's Wildlife Habitat Incentives Program and the Future Fisheries program, they were able to pump water from a spring to a 24,000-gallon holding tank. Gravity flow through underground pipelines provides water to nine tanks. These tanks provide water to cattle that graze pastures bordering five miles of Elk Creek and two miles of the Shields River. A spring in another pasture provides water to two additional tanks.

"Basically, we got 800 head of cattle off the creek and river during critical times," Calvin said. "We didn't like having the cattle down in the creek bottom during calving. It's not healthy for them or the riparian area."

Since developing off-stream water sources, the Bohleens said range condition now dictates where they can graze cattle, not the availability of water. "This has added a lot of flexibility for me," Calvin said.

In addition to providing clean, fresh water for his cattle, Calvin also said that it is common to see antelope, deer, elk, and moose in the pastures enjoying the same water from the tanks instead of wading through mud to get a drink at the creek.

"We've already seen an increase in wildlife in the area. Vegetation has increased in the riparian area and water temperature has decreased, which is good for fish. Water erosion and turbidity have both decreased."

"This project was something my dad and I talked about doing for years and years," Calvin said. "With the help of the WHIP funding, we were able to do something we had always wanted to do."

According to the Bohleens, the project had still another benefit. The holding tank is connected to a dry hydrant which in times of emergency enables the fire department to fill its fire truck in six or seven minutes. "It has been comforting in this fire season to know we have a dry hydrant accessible to the community fire department," Calvin said.



Calvin and Suzanne Bohleen,
Park County, MT ranchers.

tank. Gravity flow through underground pipelines provides water to nine tanks. These tanks provide water to cattle that graze pastures bordering five miles of Elk Creek and two miles of the Shields River. A spring in another pasture provides water to two additional tanks.

NRCS At A Glance



NRCS Mission

To provide leadership in a partnership effort to help people conserve, improve, and sustain our natural resources and environment.

NRCS Vision

A productive nation in harmony with a quality environment.

People in Partnership for a Healthy Land

The Natural Resources Conservation Service (NRCS) works hand-in-hand with the American people to conserve natural resources on private land. We help land users approach conservation planning and implementation with an understanding of how natural resources relate to each other and to all of us, and how our activities affect those resources.

NRCS, formerly the Soil Conservation Service, was created as a national response to the Dust Bowl catastrophe of the 1930s. Hugh Hammond Bennett, the agency's first chief, convinced Congress that soil erosion was a national menace; that a permanent agency was needed within the U.S. Department of Agriculture to call land owners' attention to their land stewardship opportunities and responsibilities; that a partnership of federal agencies with local communities was needed to help farmers and ranchers conserve their land.

Today NRCS, the U.S. Department of Agriculture's lead conservation agency, still speaks to the health and well-being of soil, water, air, plants, and animals. Indeed, no other federal agency speaks for the health and fate of America's private land.

NRCS Services and Products

NRCS employees and volunteers provide services and products to managers and owners of private land that assist them in making land use decisions.

Technical Assistance for Conservation Planning

NRCS scientists provide technical assistance to help land owners and operators decide what conservation practices and systems will best sustain the land, water, and wildlife while meeting their economic goals. This planning assistance ranges from a site specific plan to one that covers a larger geographic area.

Technical Assistance for Application of Conservation

NRCS provides technical and cost-share assistance to help customers apply planned conservation practices and systems. This assistance includes the designs, specifications, construction, and management assistance, as well as financial assistance, for practice and system installation.

Customers Are Not the Only Ones Who Benefit

Ultimately, every person who drinks water and eats food benefits from the assistance provided by NRCS. Individuals and groups who own or manage Montana's private land are the people who most directly use NRCS products and services:

- Farmers, ranchers, and others who manage privately owned land
- Water management groups
- Rural and urban community leaders and members
- Local and state government elected and appointed officials
- Other individuals, groups, and associations with an interest or focus on natural resource issues

A Staff of Technically Sound, Field-Based Employees

The strength of NRCS is its workforce—the men and women who work side-by-side with the owners and managers of America's privately owned land.

These are the NRCS employees who have the technical expertise and field experience to help land users solve their natural resource challenges and maintain and improve their ability to thrive economically. NRCS employees are highly skilled in many scientific and technical specialties, including soil science, soil conservation, agronomy, biology, agroecology, range conservation, forestry, engineering, geology, hydrology, cultural resources, and economics.

Partners

NRCS collaborates with many partners to set conservation goals, to provide the maximum technical assistance to people who work the land, and to leverage the federal contributions to natural resource conservation on private land. These partners include:

- Conservation districts
- County governments
- State and other federal agencies
- NRCS Earth Team volunteers
- Agricultural and environmental groups
- Professional societies.

The state's 62 conservation districts—virtually one in every county and on some reservations—take a special place in the partnership and the natural resource conservation delivery system. Conservation districts are units of local government that operate on the premise that local people know the most about local natural resource needs. Conservation districts link NRCS to local communities and to local priorities for natural resource conservation.

The State Technical Committee in Montana is a 83-member group that fulfills a key partnership and advisory function. These individuals provide information, analysis, and recommendations on implementing USDA conservation programs. Membership on the committee is open to representatives of private organizations and businesses, state and federal agencies, and individuals who are knowledgeable or have expertise in natural resource conservation.

For more information:

Shirley Gammon, State Conservationist
Federal Building Room 443
10 East Babcock
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Budget and Staffing



photo: USDA-NRCS

Starla Rollo has served as an Earth Team volunteer at the Great Falls, Montana, field office for several years. She assists with the Sun River watershed project helping with grant applications, volunteer coordination, and the ongoing distribution of information. In addition, she also performs a variety of duties for the Sun River Watershed Environmental Quality Incentives Program priority area projects.

NRCS Financial Assistance Programs

The Natural Resources Conservation Service (NRCS) administers eight programs that provide financial assistance to customers:

- Environmental Quality Incentives Program
- Farmland Protection Program
- Wetlands Reserve Program
- Wildlife Habitat Incentives Program
- Small Watershed Program
- Emergency Watershed Protection Program
- Forestry Incentives Program
- Resource Conservation and Development Program

NRCS Financial Assistance Funds Montana 1997-2000

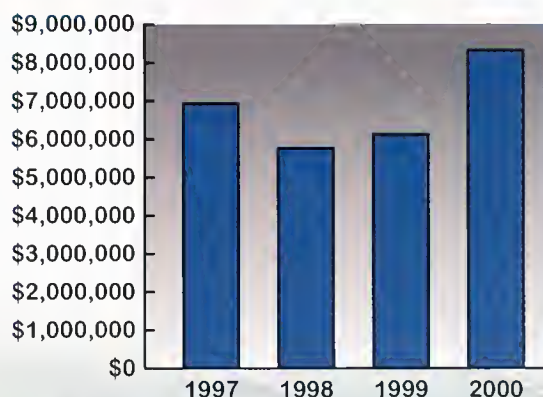


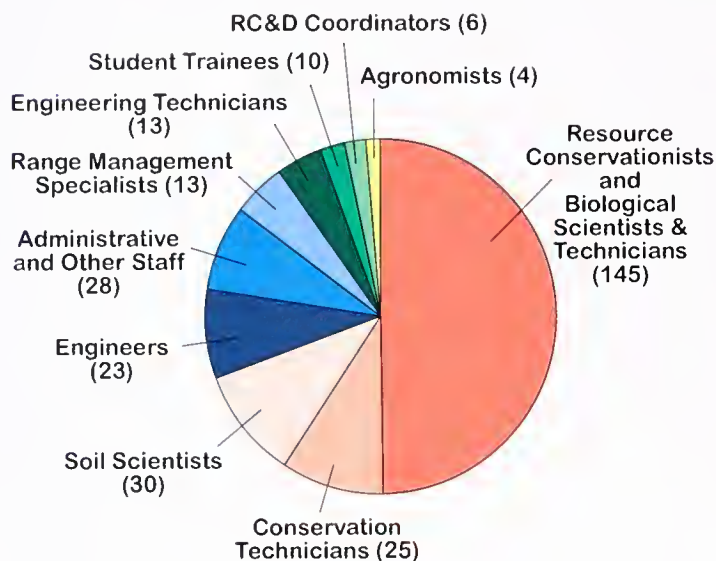
photo: USDA

NRCS Workforce

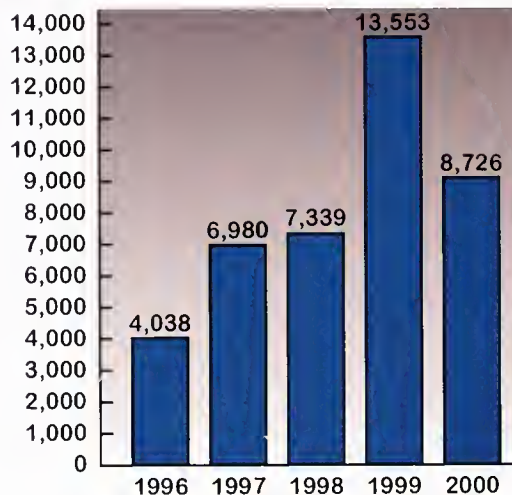
The strength of NRCS is its workforce. About 70 percent of NRCS employees in Montana work in USDA's network of local, county-based offices. These NRCS employees have the technical expertise and field experience to help land users solve their natural resource challenges and maintain and improve their ability to thrive economically. NRCS also has an infra-

structure that provides technical training and the latest information to field office personnel that maintains the highest standards of technical excellence.

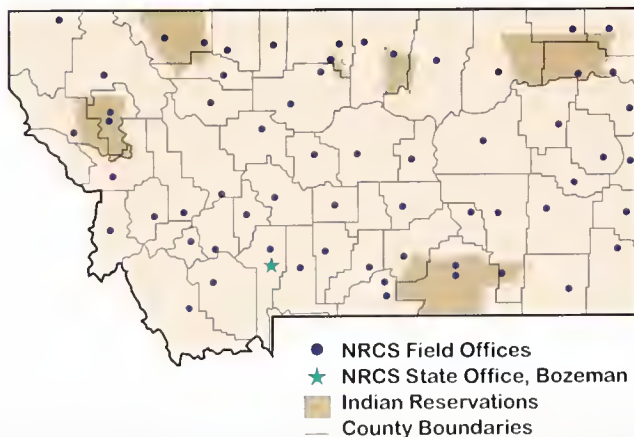
NRCS also has 120 active Earth Team volunteers across the state who worked 8,726 hours in 2000. These volunteers provide valuable service to NRCS staffers—from developing conservation plans with producers to conducting information/education activities.



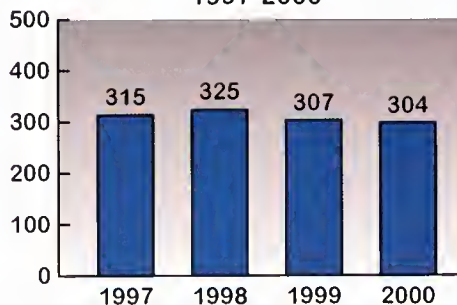
**Montana Earth Team Volunteer Hours
1996-2000**



**Location of NRCS Primary Point of Contact
Offices**



**Montana NRCS Staff Years*
1997-2000**



*A staff year represents a person working full time for one full year. The total number of employees can exceed the total number of staff years.



Conservation Technical Assistance

In 1994, the Lower Missouri River Coordinated Resource Management

(CRM) Group asked NRCS to help them solve bank erosion problems along the Missouri River below Fort Peck dam. Damages include the loss of fertile lands, loss and damage to irrigation pump sites, loss of property, and other environmental consequences of the erosion. Since then, NRCS, the U.S. Army Corps of Engineers, and the USDA Agricultural Research Service's National Sedimentation Laboratory have been primary collaborators to develop scientifically based and ecologically sound information for the CRM group to use to make future decisions about farm enterprises, land use, and natural resource conservation.



photo: USDA-NRCS

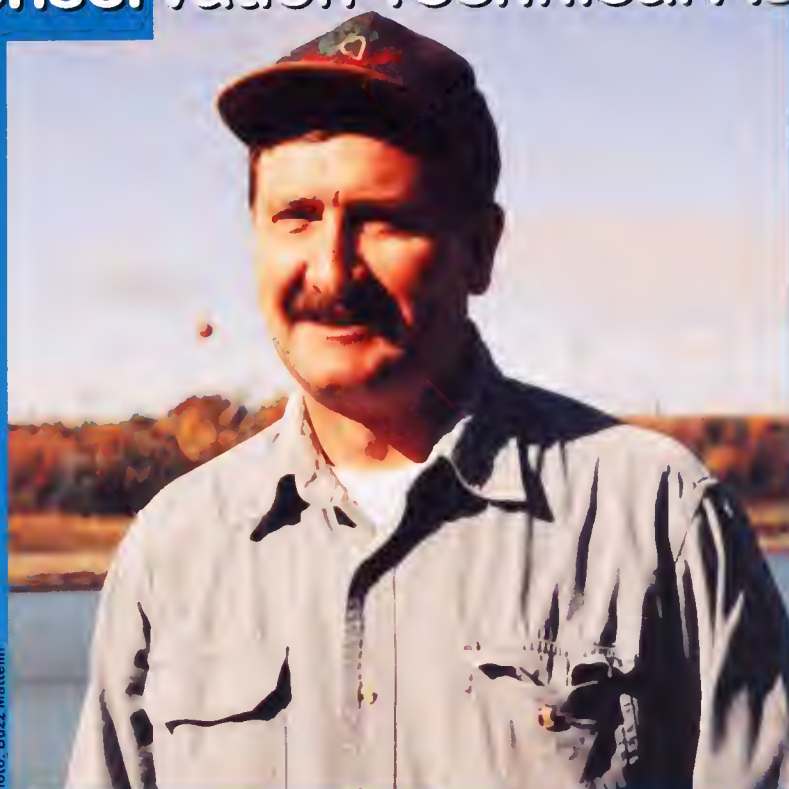


photo: Buzz Mattelin



photo: USDA-NRCS

Buzz Mattelin, member of the Lower Missouri CRM, and a farmer from Culbertson, Montana, said the research conducted by the agencies has given the CRM group valid data that they've never had before in helping to manage the river. "This never would have happened without the help of NRCS," he said. "They were the catalyst that got us going."

Conservation technical assistance is the Natural Resources Conservation Service (NRCS) base program that provides range conservationists, soil conservationists, engineers, biologists, agronomists, and soil scientists who work hand-in-hand with local land users to conserve natural resources on private land. This assistance is available at no cost and can be obtained at your local NRCS office.

This is the foundation of our conservation programs, and we are committed to providing science-based technical information and support to decision makers to meet the changing challenges in natural resource management. Assisting people to make wise land use decisions about their natural resources is the primary function and strength of the agency.

NRCS services are based on the practical delivery of science-based technology. Technical standards are developed nationally, but are customized to meet the

needs of Montana producers. State and local governments also use these standards.

With NRCS help, land owners plan and apply practices that reduce soil erosion, improve water quality, and enhance forest land, wetlands, grazing land, and wildlife habitat. Some of the assistance helps individuals or communities restore natural resources after floods, fires, or other natural disasters.

Incentives such as cost-share funds offered through local, state, or federal programs help the individual apply conservation to the land. NRCS employees offer these program options to the land owner during the planning process. The outcome of the technical assistance is often measured by the various practices applied to the land. However, the actual number of individuals receiving natural resource planning assistance is much higher than those who receive cost-share funds.



NRCS Assistance on Reservations

Each of Montana's seven reservations has a full-time NRCS field office that provides technical assistance to Montana's ten American Indian tribes. The partnerships with tribes for these types of services began informally in 1989 and has grown and expanded to include formal Cooperative Working Agreements between the tribes and NRCS and includes specific agreements with the four tribal conservation districts.

Tribal Conservation Districts

NRCS welcomed the creation of the new Fort Belknap Indian Community Conservation District. It joins the three existing tribal conservation districts that include the Crow Conservation District, the Blackfeet Natural Resources Conservation District, and the Rocky Boys Conservation District.

Members of the four tribal conservation districts and tribal representatives from the Ft. Peck Tribes and Little Big Horn College met with the NRCS State Conservationist and other NRCS staff in May 2000. The tribal representatives shared some of their successes and challenges in natural resources management. The discussion focused on local working group issues, accessing programs, resource inventories, communications, tribal relations, coordination with tribal natural resources staff and departments, and technical support for conservation planning.

Tribal Conservation Issues Committee

The Tribal Conservation Issues Committee is comprised of tribal representatives from the seven reservations in Montana, and representatives from the Intertribal Ag Council and the Montana Farmers Union. The Tribal Conservation Issues Committee assists NRCS in identifying and addressing conservation issues that pertain to each reservation. Committee members represent and provide recommendations and tribal input into the delivery of programs and outreach efforts. This year the committee redesigned the ranking criteria for

the Environmental Quality Incentives Program (EQIP) Indian Earmark funds to better meet the needs of the resources and priorities on Montana's seven reservations.

Outreach Symposium 2000

Tribal representatives from the seven reservations in Montana, along with members of the Montana/Wyoming Indian Stockgrowers Association, attended a three and one-half day outreach symposium promoting USDA/tribal working partnerships and addressing the concerns tribes have with participation in USDA programs and services. Tribal representatives were able to discuss with agency personnel issues affecting the management of tribal resources and identify ways to address tribal concerns.

Participation from tribal leaders from four of the seven reservations in Montana provided a heightened level of awareness of tribal issues, including the tribal perspective and discussion of the government to government relationships between tribes and federal agencies.

The Outreach Symposium was sponsored by the State Food and Agricultural Council Outreach Council in conjunction with Montana tribes and the Montana/Wyoming Indian Stockgrowers Association.



photo: USDA-NRCS

Tribal representatives and Montana USDA employees participate in Outreach Symposium 2000.

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Soil Survey



photo: USDA-NRCS

Data gathered by NRCS soil scientists working in the field has many uses to include agricultural applications, wetland identification, site selection for development, road building, waste disposal, and pollution control. Soil maps are digitized to make paper and electronic publication more efficient.

Soil survey inventory accomplishments in Montana for 2000 include completion of the Sweet Grass county area, 1,531,000 acres mapped for the first time. In addition, 33,000 acres were updated in the Bitterroot/ Missoula/ Ninemile area.

Soil surveys provide a field-based scientific inventory of soil resources, including soil maps, data about the physical and chemical properties of soils, and information on the potentials and limitations for use of each soil.

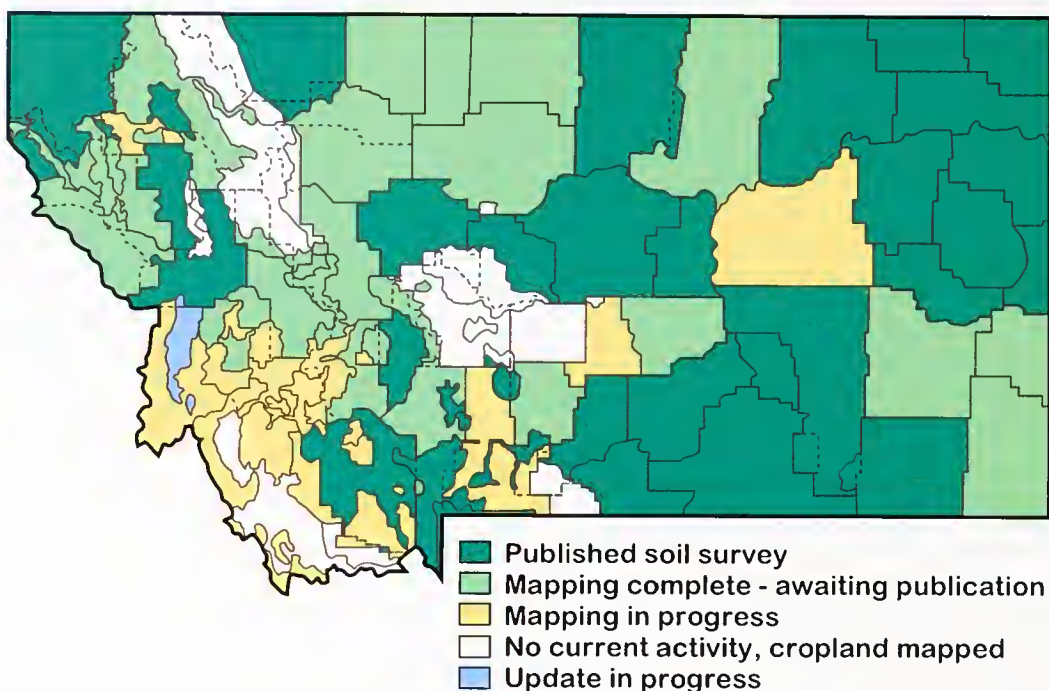
Soil surveys have many uses, but are developed for people to determine the best use of the land based on soil type. Soils data may be used to determine highly erodible areas, potential wetlands, sites where livestock waste could be distributed with little environmental

impact, prime farmland, and other soil interpretations critical to natural resource management. Soils data is heavily used by urban planners and other government agencies.

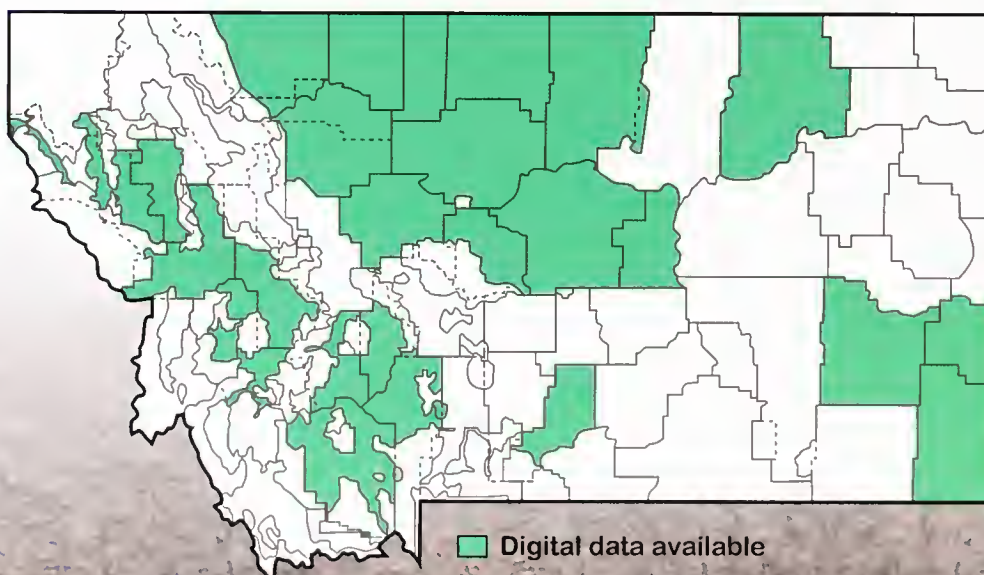
NRCS is the lead federal agency responsible for soil mapping on private land. Many federal, state, and local agency partners also contribute resources to the mapping effort.

Soil survey captures soil map information formerly only on paper maps in a georeferenced digital format for use in computer applications and GIS systems. The resulting data is used for conservation planning, efficient calculations on soils data, and for preparing soil maps for either hard copy or digital publication.

Soil Survey Mapping Status September 2000



Soil Survey Digital Data Available September 2000



Plant Materials



Tom Helm, a seed grower near Toston, Montana, alternates strips of 'Trailhead' basin wildrye and Rocky Mountain juniper to provide upland game bird habitat. Helm uses 'Trailhead' basin wildrye foundation seed released from the NRCS plant materials program "because they are the only ones that are supplying a source for seed producers." Helm plans to harvest seed from 350 acres. "Trailhead" basin wildrye is a wonderful, underutilized grass that provides good habitat for pheasants and Hungarian partridges."

photo: USDA-NRCS

The Bridger Plant Materials Center was involved in the release of six plants in 2000:

- Antelope germplasm slender white prairie clover
- High Plains germplasm Sandberg bluegrass
- Garnet germplasm mountain brome grass
- Dupuyer streambank germplasm silverberry
- Pondera floodplain germplasm silverberry
- 'Shaw' alfalfa

The Antelope slender white prairie clover and High Plains Sandberg bluegrass are natives to be used in seed mixtures for the Conservation Reserve Program, reclamation, and range seeding in the Great Plains. The white prairie clover is a cooperative release with the Bismarck, North Dakota, Plant Materials Center. The High

Plains Sandberg collections have been studied since 1980 in the Arid Lands Project resulting in a release consisting of three top performing accessions.

The Garnet mountain brome grass will be used for erosion control, stabilization, and revegetation in the northern Rocky Mountain foothills. The mountain brome grass was collected near Garnet, Montana, and has been studied since 1977. It is a cooperative release with

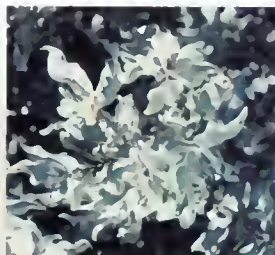


photo: USDA-NRCS

Pondera floodplain silverberry



photo: USDA-NRCS

Slender white prairie clover

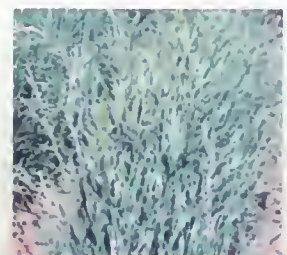


photo: USDA-NRCS

Garnet mountain brome grass

the Upper Colorado Environmental Plant Center at Meeker, Colorado.

Foundation seed for the Antelope slender white prairie clover, High Plains Sandberg bluegrass, and Garnet mountain brome grass is being grown at the Bridger Plant Materials Center and the Upper Colorado Environmental Plant Center and is being distributed to commercial seed growers for seed production. Commercial seed could be available as early as the fall of 2001.

The two silverberries will be used in streambank and riparian revegetation. These silverberry releases are source identified releases from native plants in Pondera County, Montana. Seed and plant propagules will be available from the collection site through the Natural Resources Conservation Service (NRCS). Collections can then be grown for commercial sale.

NRCS also cooperated with Montana State University on the release of 'Shaw' alfalfa. It is a crown type, drought tolerant alfalfa with a winter hardiness rating of two. It will be used for pasture and hay plantings.

Program Background

Plant materials is a national program within NRCS that selects plants and develops revegetation technologies to assist land owners in protecting their natural resources.

On average, more than 4,000 pounds of foundation seed of 15 Bridger releases are distributed annually to commercial growers in the Pacific Northwest, north central Great Plains, and Intermountain west. The annual commercial retail value of Bridger releases is approximately \$7 million.

The Bridger Plant Materials Center is addressing the following resource concerns identified by local conservation districts and other partners in Montana and Wyoming:

- rangeland revegetation
- forestland erosion control
- extend green grazing periods
- shelterbelts and windbreaks
- invasive weed competition
- buffers for sediment, nutrient and pesticide filters
- saline soil reclamation
- wildlife annual food plots
- riparian and wetland restoration

For more information:

USDA-NRCS Plant Materials Center
Route 2, Box 1189
Bridger, Montana 59014
TEL: 406-662-3579 FAX: 406-662-3428
<http://Plant-Materials.nrcs.usda.gov>

Or visit your local office of the
USDA Natural Resources Conservation Service



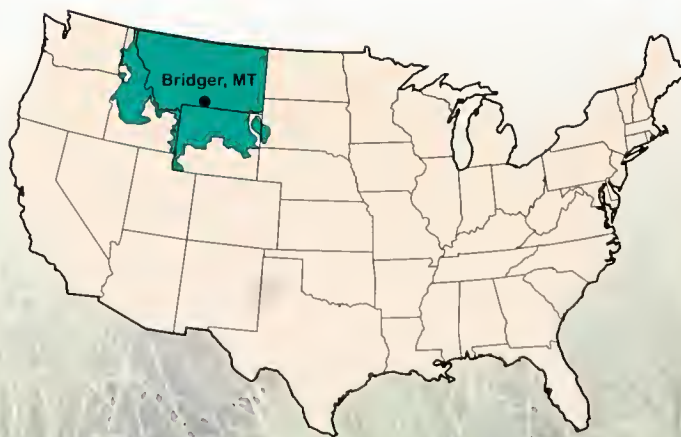
photo: USDA-NRCS

Six Chinese scientists learned about conservation plant seed production, conditioning, and storage technologies at the Aberdeen, Idaho, and Bridger, Montana, Plant Materials Centers. The Bridger PMC was host to 55 visitors in 2000.



photo: USDA-NRCS

The Bridger PMC distributed approximately 4,000 pounds of foundation seed to commercial seed growers in 2000. Foundation seed of Garnet germplasm mountain brome grass became available for commercial use in the spring of 2000.



Grazing Lands Conservation Initiative (GLCI)



photo: USDA-NRCS

The Montana Grazing Lands Conservation Initiative steering committee members from left to right are Robert Lee, Robert Hanson, Aggie Helle, Pete Jackson, and John Hollenback. Not pictured are Ellis Williams, Lonnie Reukauf, and John Anderson.

NRCS obligated \$31,700 for seven new demonstration projects in 2000:

In Custer, Dawson, Wibaux, and Fallon counties ranchers are planting forage legume cover crops as a demonstration technique to improve soil health on cropland and provide for a high protein summer forage. Soil and forage quality analyses are being conducted to determine the effectiveness of these plantings.

The Stillwater Range Association is sponsoring a rangeland and livestock mineral study in Stillwater and Yellowstone counties. The project involves performing

liver biopsies on cattle to determine the mineral content of rangeland forage and to correlate it to NIR fecal profiles to increase the knowledge of how to rotate livestock for range health and productivity.

The McCone County Conservation District is establishing a plant materials demonstration to familiarize local ranchers with different types of forage grasses, forbs, and legumes that are available for dryland pasture and rangeland seedings.

In Madison County several land owners are working together to utilize sheep grazing to control leafy spurge and other weeds on small tracts.



photo: USDA

The Garfield County Conservation District is sponsoring a project to demonstrate various techniques and equipment for rangeland renovation.

The Cascade County Conservation District will be hosting a grazing management workshop at the Dana Ranch in June 2001. The tour will feature several examples of innovative range improvement techniques as well as a discussion on livestock/wildlife interactions.

GLCI supported the continuation of the Montana State University riparian forage quality/stubble height study in Meagher, Powell, and Fergus counties. The project's main objective is to measure the effects of grazed stubble height on surface water quality. Additional data collected this year focuses on riparian forage quality and how cattle select and utilize forage in riparian areas as contrasted to their behavior in upland areas.

GLCI Background

The Montana Grazing Lands Conservation Initiative (GLCI) is a voluntary effort to enhance Montana's 40 million acres of privately owned grazing land by increasing technical assistance at the grassroots level.

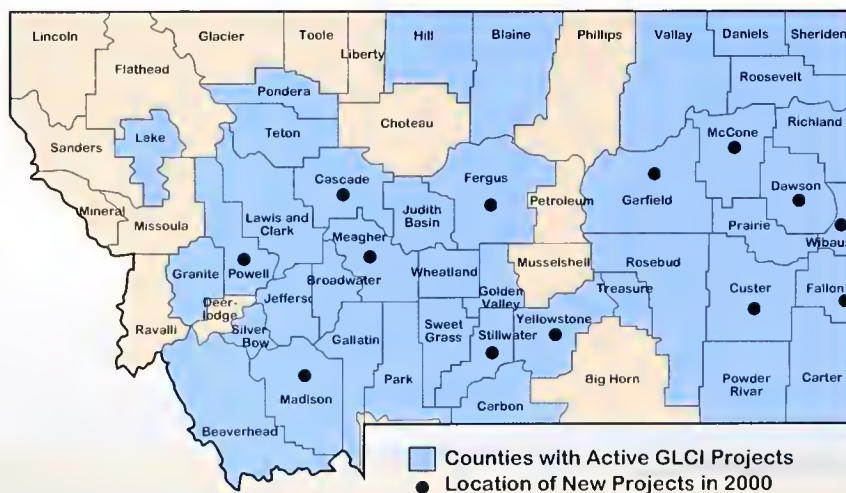
This effort is led by a steering committee composed of individuals and organizations with a vested interest

in grazing land. Members include John Hollenback, Governor's Rangeland Resource Committee; Robert Lee, Board of Livestock; Robert Hanson, Farm Bureau; Aggie Helle, Montana Woolgrowers Association; Pete Jackson, Society for Range Management; Ellis Williams, Montana Stockgrowers Association; Lonnie Reukauf, Montana Grazing Districts; and John Anderson, Montana Association of Conservation Districts.

The Natural Resources Conservation Service (NRCS) provides funds through GLCI to support demonstration projects and educational programs throughout the state, in addition to providing range management technical assistance to ranchers in every county in Montana. Montana State University Extension is a joint partner in GLCI activities, and provides major contributions through grazing land education programs and research. MSU Extension also funds the state GLCI coordinator position. The Montana Department of Natural Resources and Conservation, Conservation and Resource Development Division also provides technical and financial assistance to GLCI projects.

Funded since 1996, GLCI funds have supported 42 projects in 45 counties in Montana. Projects have focused on enhancing economic, social, and environmental stability of private grazing land.

Distribution of Active GLCI Projects in Montana



For more information about Montana GLCI activities, please visit our web site at:
<http://agadsrv.msu.montana.edu/Extension/NaturalResources/GLCI/Main/home.htm>

Small Watershed Program (PL-566)

photos: USDA-NRCS



"With our watershed project, we want to position ourselves to use 25 to 50 percent less water each year and reflect that in our power costs to pump water," said Dave Schwarz, general manager of the Buffalo Rapids Project in Terry, Montana. "We can save water and lower our costs."



Buffalo Rapids Planning Complete

In 2000, the Natural Resources Conservation Service (NRCS) completed the planning portion of the Buffalo Rapids Project, a 46,000-acre irrigated cropland project in Custer, Prairie, and Dawson counties. Funding was requested for the implementation of the plan in fiscal year 2002.

Planning indicates the project would reduce the amount of water being pumped out of the Yellowstone River, improve water quality, reduce sedimentation from irrigated fields, reduce carbon being released from irrigation pumps by reducing the amount of energy needed to pump water, and also decrease electrical costs.

The project is sponsored by the Buffalo Rapids Board of Control and the Custer, Prairie, and Dawson county conservation districts.

Lower Birch Watershed Project

NRCS constructed several structures on the Lower Birch watershed project in 2000, a pipe drop and a wasteway along with numerous canal check and turn-out structures. NRCS also contracted for construction of an additional wasteway and a division. Design work is in progress for two large diversions and another wasteway to be constructed in 2001.

The Lower Birch watershed is an irrigation project that consists of upgrading an existing irrigation system to improve efficiency and delivery on 45,000 acres in northern Montana. Project goals are to reduce salinity problems by achieving a 50 percent savings in irrigation water required, a 70 percent savings in water lost to deep percolation contributing to saline seep, and an 80 percent savings in irrigation runoff.

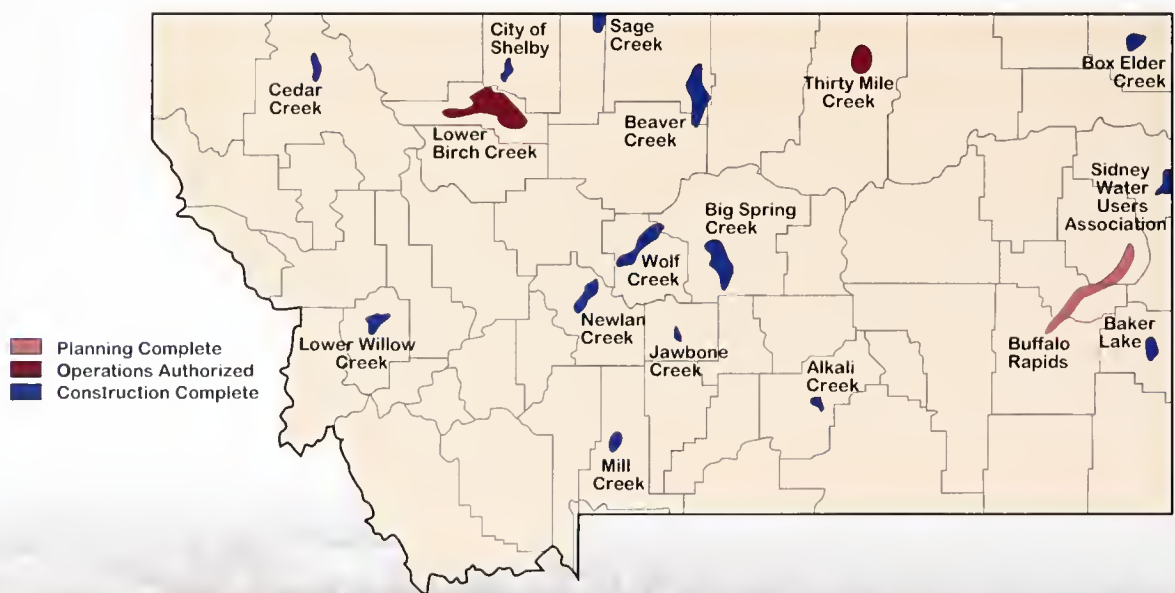
Program History

Since 1962, the NRCS and local sponsors have investigated, planned, designed and/or installed more than 70 small watershed projects in Montana under the authority of the Watershed Protection and Flood Prevention Act (Public Law 83-566). This small watershed program works with local government sponsors and helps solve natural resource and related economic problems on a specific watershed. Project purposes include watershed protection, flood prevention, erosion and sediment control, water supply, water quality, fish and wildlife habitat enhancement, wetlands creation and restoration, irrigation efficiency, and public recreation in small watersheds. Both technical and financial assistance are available. Other partners working together to make Montana watershed projects a success include county boards of supervisors; conservation districts; city, county, and state governments; federal agencies; and groups interested in reducing flood damage, irrigation improvement, hunting and fishing, and natural resource conservation.

Watershed Funds Received in Montana
1996-2000



Active or Completed PL-566 Watershed Projects
September 2000



Snow, Water, and Climate Services



photo: Jesse Aber

"The major functions of the drought advisory committee are to monitor, report, assess, and respond to conditions and impacts of drought. NRCS snow survey information allows the committee to better perform all four of these functions," said Jesse Aber, water resources planner for the Montana Department of Natural Resources and Conservation and staff person for the Montana Drought Advisory Committee.

photo: USDA-NRCS

Water Supply

In January 2000, the Natural Resources Conservation Service (NRCS) issued its first spring and summer streamflow forecasts ranging from well below average to near average. It's a prediction that unfortunately came true. Streamflows in August ranged from near average to severely below average with several streams

setting new record low flows. From the initial streamflow forecasts and surface water supply indexes there were areas in central Montana that were headed for surface water supply trouble. With below to well below average rainfall, the forecasts came to pass.

Snow survey data is used to forecast streamflow, reservoir inflows, and snowpack runoff. During the 2000 forecasting season, the NRCS published 1,100 seasonal volume forecasts at 94 stream points, 300 snow melt runoff forecasts on 27 streams, 21 low flow forecasts on three rivers, and 31 statistical peak flow forecasts throughout Montana. These forecasts enabled federal, state, local and tribal levels of government to prepare for, minimize the impacts of, and respond to drought emergencies.

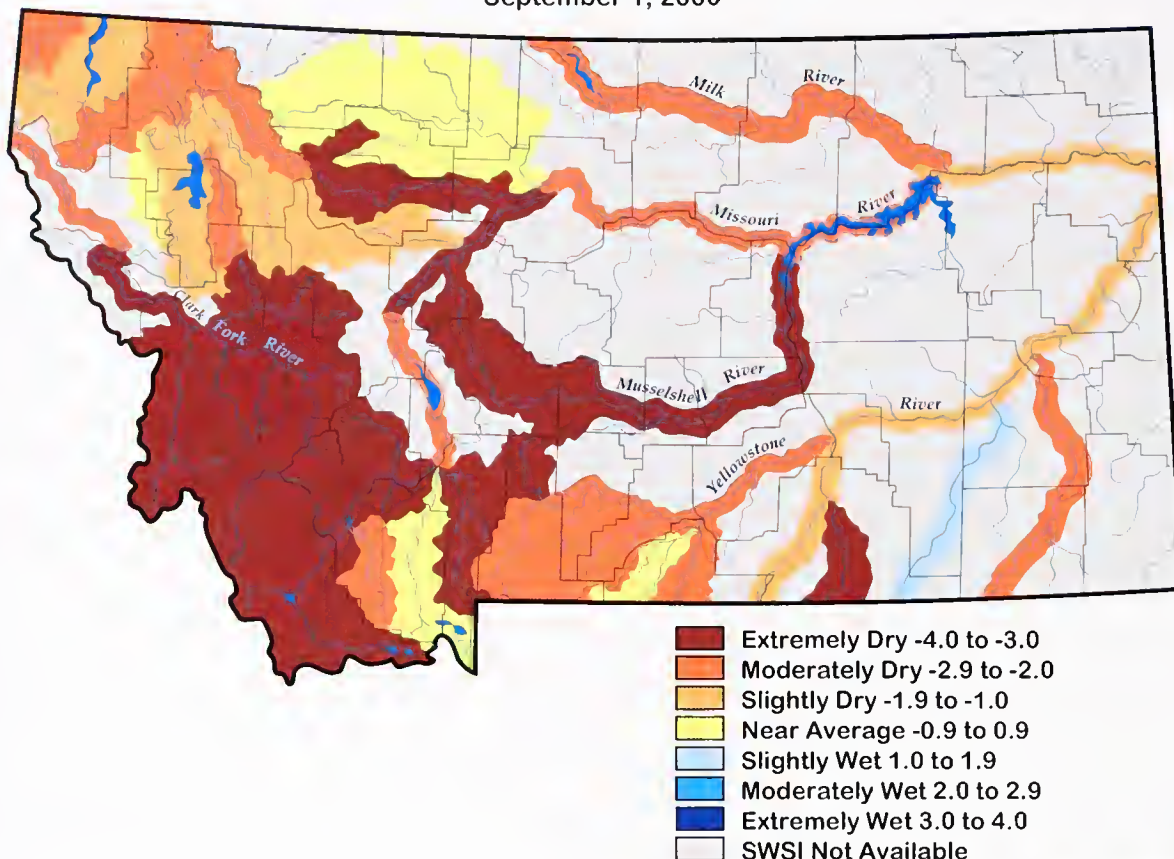
The Montana Drought Advisory Committee uses the information to identify regions of the state where drought is most likely to occur. By being able to identify these areas in advance of the summer season, planning can be coordinated at the local level with the advisory committee and resources can be directed to those areas.

photo: OSU Extension



NRCS Snow, Water, and Climate Services predicted the low reservoir inflows that occurred in Montana during 2000.

Surface Water Supply Index (SWSI) Values September 1, 2000



Data Collection

NRCS snow survey crews continued to keep the current SNOTEL (snowpack telemetry) system of 127 sites fully maintained and operational. Maintenance activities included installing new antenna baluns and coaxial cables at approximately 20 sites, replacing old and defective pressure transducers, and upgrading several sites with new snow pillows.

Wildfires, which burned nearly one million acres in Montana during the 2000 fire season, also necessitated repairs at many SNOTEL sites.



photo: USDA-NRCS

Fire damage at the South Fork Shields SNOTEL site in the Crazy Mountains.

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Resource Conservation and Development (RC&D)



photo: USDA-NRCS

Students from Butte Central High School plant trees along Blacktail Creek in Butte, Montana, as part of an urban forestry program partially sponsored by the Headwaters RC&D.

As members of the Montana Carbon Offset Coalition, RC&Ds teamed up with Montana Power Company, the Montana Department of Natural Resources and Conservation, and the Forest Service to initiate forest carbon management programs to offset carbon dioxide released into the atmosphere.

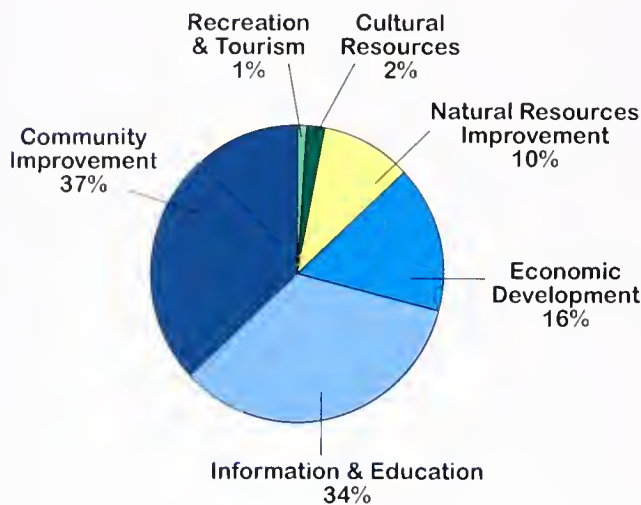
Many Montana rural communities find it difficult to locate and acquire funds and other resources to improve the quality of life for their citizens. Opportunities are available to support this endeavor through USDA's Resource Conservation and Development (RC&D) program. RC&D councils are made up of representatives from county and city governments and conservation districts who work with USDA staff to find resources to benefit rural communities. Through Montana's seven RC&D councils, the Natural Resources Conservation Service (NRCS) helps coordinate inter-

agency projects to improve environmental, social, and economic conditions throughout the state.

RC&Ds:

- Promote conservation, development, and use of natural resources
- Improve the general level of economic activity
- Enhance the environment and standard of living in communities

RC&D Focuses on Six Major Areas in 2000 (% of Projects)



Results in Local Communities Include:

Dry Hydrant Project

A state grant provided financial resources to rural communities to install more than 250 dry hydrants across Montana to improve fire protection and reduce fire protection costs.

Intercity Rail Express Pilot Project

A transportation system is being developed to express packages between communities utilizing Amtrak rail system, which assists in developing a sound transportation infrastructure.

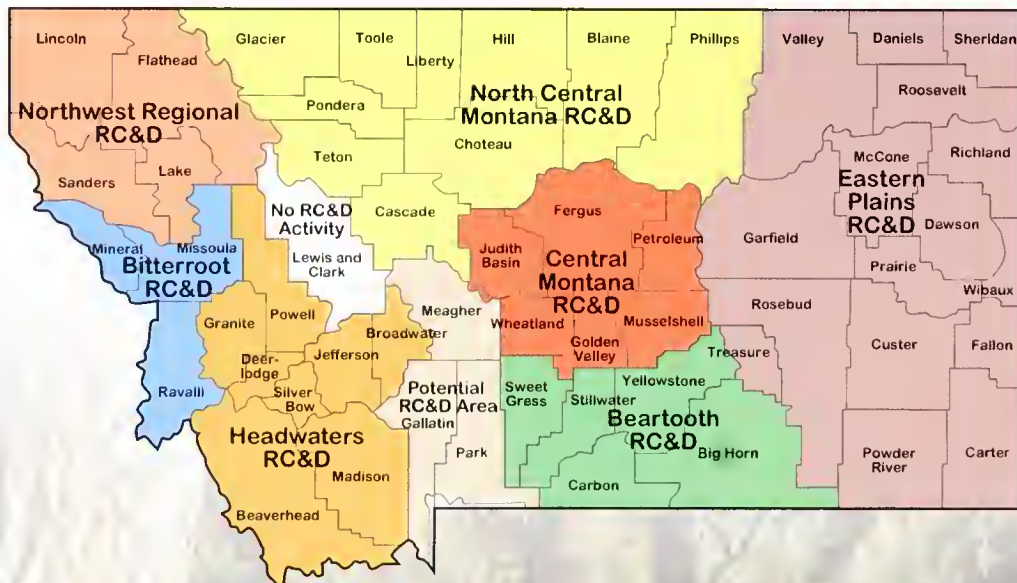
Home Buyer Education and Assistance Program

Nearly 20 home buyer courses have been provided by RC&Ds across Montana in partnership with the Neighborhood Housing Program. Montana's RC&D home buyer program is ranked first in the country for new home buyer assistance. These assistance packages made it possible for more than 230 first-time home buyers to move into a new home.

Montana Carbon Offset Coalition

The Montana Carbon Offset Coalition is implementing a process and developing an infrastructure for planting non-forested lands with trees for the long-term goal of carbon sequestration. Four of the RC&D areas are actively involved in this effort and are seeking reforestation/afforestation pilot projects across the country.

Montana Resource Conservation and Development Areas (RC&Ds) September 2000



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Environmental Quality Incentives Program (EQIP)

"EQIP is serving as a catalyst to get land owners involved in conservation projects that are otherwise economically unfeasible in today's agricultural economy," said Mike Meuli, a Lake County, Montana, rancher. Meuli has used EQIP to protect water quality in Dayton Creek by restoring and enhancing riparian areas and developing off-stream water tanks and water gaps. He has also installed a more water-efficient center pivot irrigation system.

photo: USDA-NRCS

In 2000, more than 240 land owners developed long-term contracts through the Environmental Quality Incentives Program (EQIP), utilizing cost-share dollars to help implement sound natural resource plans. The majority of EQIP contracts on rangeland, hay land, and cropland will have a positive effect on water quality and quantity concerns. EQIP contracts will help ensure that high quality water is returned or maintained in streams and adequate supplies are available.

Rangeland health is a major land use concern in Montana. Prescribed grazing and the installation of facilitating practices, such as fencing and livestock watering facilities, assist in rangeland health recovery and riparian area improvement.

Montana continues to receive requests for EQIP that are more than twice the allocation available. In 2000, approximately 400 land owners applied for \$9.7 million in funding. The Natural Resources Conservation Service (NRCS) assisted land owners in developing 244 contracts for a total of \$4.63 million in cost-share assistance.

Background

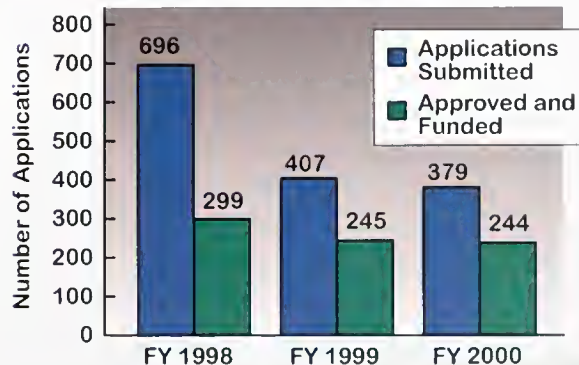
EQIP is a voluntary conservation program that provides technical, financial, and educational assistance to farmers and ranchers. This effective environmental program helps producers address the top priority natural resource conservation concerns, which in Montana are water quality, grazing land health, and water quantity. Implementing certain conservation practices, such as fencing, windbreaks, and livestock watering facilities, help to improve grazing distribution and water qual-

ity. Irrigation water conveyance systems and irrigation water management plans increase water quality and help to ensure more water remains in streams and rivers. Streambank stabilization and riparian revegetation improve water quality and benefit wildlife and fisheries.

Financial Assistance

EQIP requires an NRCS approved conservation plan. Land owners enter into a 5- to 10-year contract to implement conservation practices in the plan. Cost sharing may pay up to 75 percent of the cost of certain conservation practices, as well as incentive payments for conservation management. Total cost share and incentive payments are limited to \$10,000 per person per year and \$50,000 over the life of the contract.

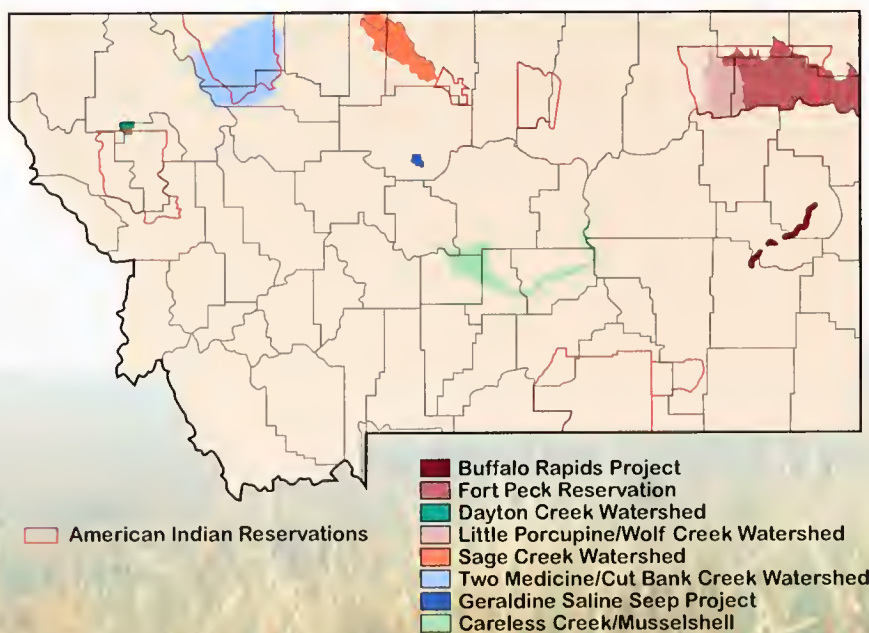
EQIP Program Applications



EQIP Objectives for 2000

Priority Issues	Financial Assistance	Purpose & Benefits	Contracts Funded
Water Quality, Water Quantity, Grazing Land Health	\$1,413,959	Improve water quality in the state, improve instream flows for fish by reducing amounts drawn for irrigation, and improve range health thereby increasing species diversity, reducing erosion, and improving wildlife habitat.	88
Priority Area			
Buffalo Rapids Project	\$787,687	Improve water quality of irrigation return flows into the Yellowstone River (nitrate loading).	6
Fort Peck Reservation	\$693,278	Improve grazing land health and ground/surface water quality, and educational efforts.	42
Dayton Creek Watershed	\$133,620	Improve water quality and instream flows for fisheries in Dayton Creek (tributary of Flathead Lake).	8
Little Porcupine/Wolf Creek Watershed	\$301,704	Improve grazing land health and water quality degradation caused by poor irrigation practices.	22
Sage Creek Watershed	\$275,739	Reduce salinity effects on soil and water and improve grazing land health.	23
Two Medicine/Cut Bank Creek Watershed	\$223,748	Reduce water quality degradation caused by poor irrigation practices and improve grazing land health.	8
American Indian Reservations in Montana	\$601,760	Improve rangeland health on American Indian Reservations in Montana.	40
Geraldine Saline Seep Project	\$78,131	Reduce the salinity effects on soil and water.	5
Careless Creek/Musselshell	\$112,074	Improve water quality by addressing animal waste, rangeland management and educational efforts.	2
Crow Reservation Educational Assistance	\$8,300	Increase awareness of resource needs on the Crow Reservation.	
Totals	\$4,630,00		244

Funded EQIP Priority Areas for 2000



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Wildlife Habitat Incentives Program (WHIP)

"We've enhanced our land for birds, waterfowl, and other wildlife. What we've done also enhances the land for cattle," said Daryl Buxbaum, land owner at Sidney, Montana. "We make improvements every year, and it's looking better all the time." Through WHIP, Daryl extended water pipelines to add water tanks to areas of pastures not being grazed by cattle because it was too far from water. This allows him to rest one pasture each year, which provides nesting and cover habitat for upland game and song birds.

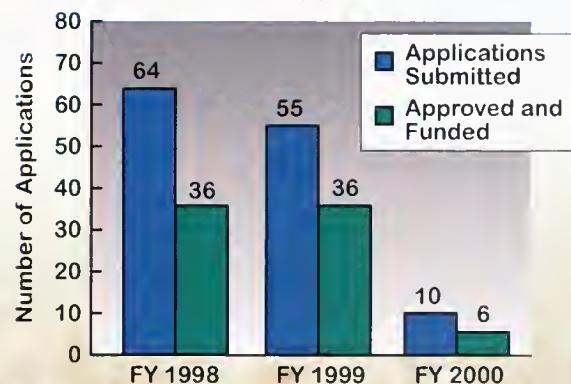


photos: USDA-NRCS

The Wildlife Habitat Incentives Program (WHIP) is a voluntary program that helps land owners develop and improve wildlife habitat on private lands. WHIP dollars help implement the actions identified in conservation plans. The compatibility of livestock and wildlife programs benefit all Montanans.

In 2000, WHIP did not receive additional funding. However, there remained approximately \$50,000 in Montana's program from which six contracts were written and 3,649 acres were addressed with wildlife habitat improvement as the main objective. A total of 109,090 acres in Montana are currently implementing conservation measures to improve habitat utilizing WHIP.

WHIP Applications



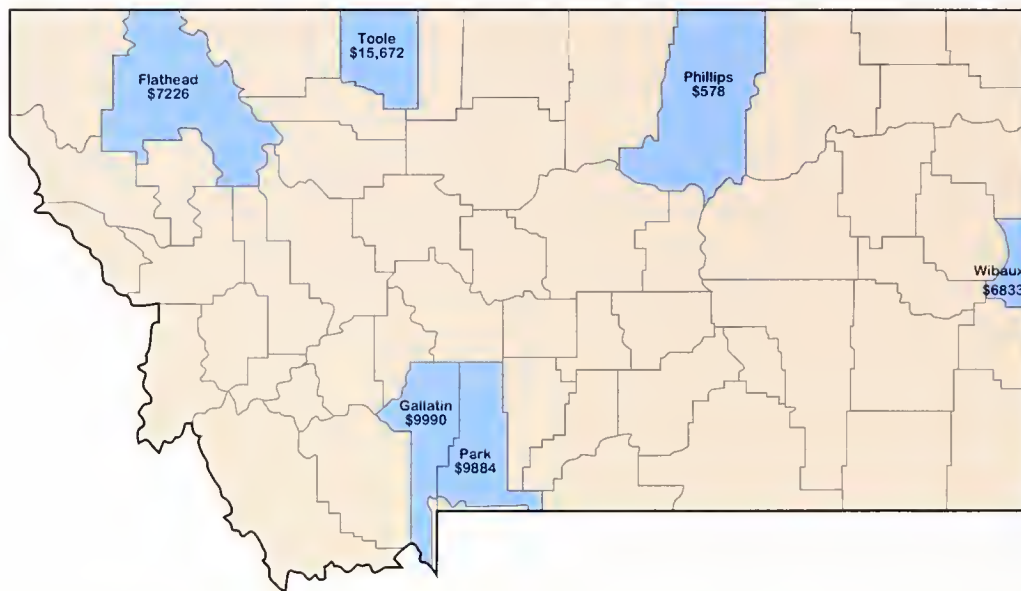
WHIP dollars are restoring, enhancing, and creating upland wildlife habitat for sage grouse, sharp-tail grouse, deer, mule deer, elk, and antelope. In addition, restoration and enhancement of native plant communities in riparian areas are improving fish habitats for bull trout and west slope cutthroat trout. WHIP funding is also helping private land owners to create or restore wetland habitat.

The new 2000 WHIP contracts are as diverse as the wildlife needs in the state. Contracts range from restoration and renovation of an abandoned feedlot near the headwaters of a stream, which maintain abundant wildlife in northwestern Montana, to a larger ranch unit in

eastern Montana that incorporates a strategic grazing rotation for improving the specific habitat for upland birds.

These contracts demonstrate that wildlife habitat development involves not just the hobby farmers but can go hand-in-hand with production agriculture. WHIP will be improving the nesting cover for wildlife on large acreages in eastern Montana, which is a number one priority identified by the Montana Fish, Wildlife and Parks. WHIP is also being used for habitat improvement on smaller acreages accessible to schools and clubs. Despite waning funding levels, interest in this program remains high.

WHIP Allocations by County Fiscal Year 2000



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Wetlands Reserve Program (WRP)



"WRP works well with our conservation priorities," said Tom Sanders, who operates a ranch in Granite County, Montana, with his wife, Barbara. "We want to preserve this land as ag land. The income from WRP helped us expand so we could continue in agricultural production." The Sanders have placed 101 acres adjacent to Rock Creek into a WRP perpetual easement.

photo: USDA-NRCS

The Wetlands Reserve Program (WRP) was created as a voluntary land-conservation program designed to assist eligible land owners in restoring and protecting wetlands using three options. These options include permanent easements, 30-year easements, or restoration cost-share agreements.

The Natural Resources Conservation Service works with Montana land owners to provide wetland habitat for wildlife and migratory birds, including threatened and endangered species, through WRP. Montana is

important in the production of ducks and Canada geese throughout the United States.

Montana received 96 permanent and 30-year easement applications from June 1995 through September 2000, resulting in 19,940 acres being enrolled. In 2000, a total of six applications covering 1,163 acres was approved for permanent easements and two applications covering 997 acres were approved for 30-year easements. One voluntary restoration contract totals 2.5 acres. The current backlog of offers not funded is 30.

Wetland wildlife habitat restoration includes the development of more than 300 acres of shallow water areas, plugging and filling of nearly ten miles of drains, and riparian wetland restoration. Nearly 8,000 total acres of wetland restorations and protection are provided by WRP in Montana.

In Montana, the types of WRP restoration projects most often fall into the following categories: pothole restoration, floodplain restoration, and riparian corridors. All three categories have their own unique characteristics and successful outcomes.

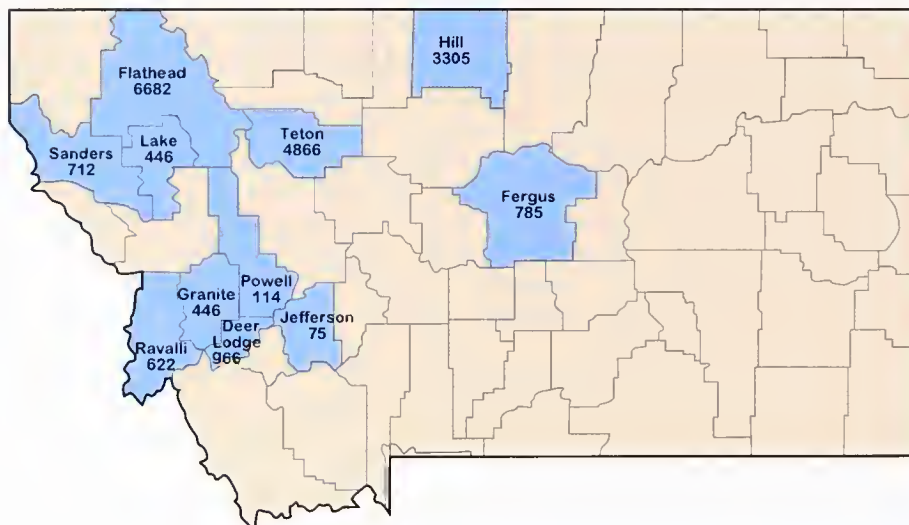
The main function of pothole restoration is for migrating waterfowl production, while the main function for floodplain restoration is to contain flood flows and

to improve and protect water quality. Riparian corridors connect protected areas, providing a safe corridor for wildlife. These restoration activities often involve filling in drainage ditches, removing dikes, and planting native vegetation. In addition, shallow ponds have been created across draws to hold additional water where enhanced water is desirable.

Almost any former or degraded wetland is eligible for WRP, as long as the wetland is restorable and will provide wildlife benefits.

NRCS has the primary administrative responsibility for WRP but also has the authority to develop cooperative agreements with outside conservation groups who can assist with its implementation.

**Total Acres in WRP
September 2000**



Forestry Incentives Program

Through the Forestry Incentives Program, Julie Wulf, land owner in Lake County, Montana, thinned trees on her forest land to reduce the risk of wildfire, increase understory forage for wildlife, and improve the forest growth on the remaining trees. "I could not have done the thinning without the assistance of NRCS and the Forestry Incentives Program," Wulf said.



photo: USDA-NRCS

In 2000, 19 land owners applied for funding through the Forestry Incentives Program. The Natural Resources Conservation Service (NRCS) obligated nearly \$57,000 in cost-share assistance to private forest land owners. Most FIP contracts were for timber stand improvement on 500 acres of future forest lands, and approximately 15,000 trees were planted on 50 acres.

Background

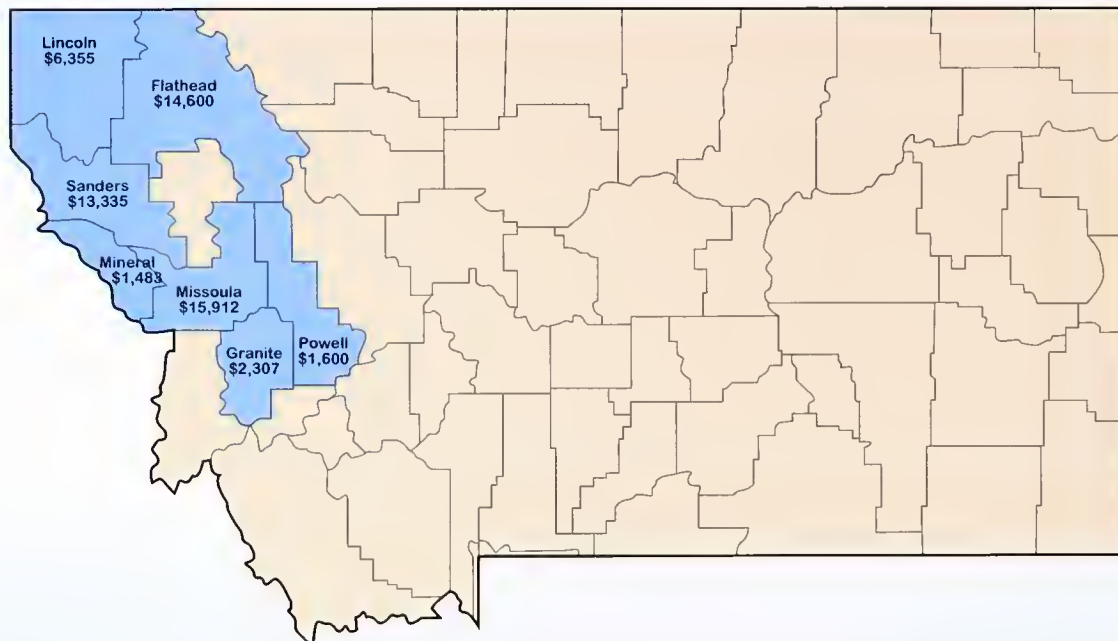
FIP is a voluntary program that helps land owners improve the health and productivity of private forest land. FIP was originally authorized in 1978 to meet the demand for future forest products. FIP provides up to 65 percent of the cost for the following types of activi-

ties on non-industrial private forest land: tree planting, timber stand improvement, and site preparation for natural regeneration.

These types of activities assure the nation's ability to meet future demand for saw timber, pulp wood, and quality trees by planting more trees and placing more forest land under good forest management. The majority of the nation's forest land is held by small non-industrial private land owners. In Montana, that equals more than 4.4 million acres of forest land. That

is approximately 25 percent of the total forest land in the state. Many of these owners are farmers and ranchers that view their forest lands as a secondary resource. NRCS and FIP can help them manage those forested resources. FIP's forest management and reforestation efforts provide numerous natural resource benefits that include reduced wind and soil erosion, enhanced water quality, improved wildlife habitat, and reduced threat of wildfire.

FIP Allocations by County Fiscal Year 2000



Conservation Reserve Program (CRP)



"I have been able to add diversity to the ranch, which is a necessity in this day and age of farming and ranching," said William "Skip" Neuman, Cascade County, Montana, producer who is using the Conservation Reserve Program to turn more than five miles of marginal pasture land along Muddy Creek into productive wildlife habitat while reducing soil erosion and improving water quality.

photo: USDA-NRCS

Montana land owners had 1,262 tracts on 263,629 acres accepted into the Conservation Reserve Program (CRP) during Signup 20. Montana ranked first in the nation on the number of acres enrolled for this signup.

With nearly 3.5 million acres currently enrolled in CRP, Montana is second in the nation, following Texas, for total acres in CRP. Annual rental payments total \$115 million in Montana. Nationally, 33.4 million acres are enrolled.

In Montana, the CRP safeguards nearly 3.5 million cropland acres by reducing soil erosion and sedimentation in streams and lakes, improving water quality,

establishing wildlife habitat, and enhancing forest and wetland resources. Montanans receive annual rental payments for the term of the multi-year contract, 10 to 15 years. To establish the vegetative cover practices, a 50 percent cost share is provided.

CRP is the U.S. Department of Agriculture's single largest environmental improvement program and one of the most effective. CRP encourages farmers to convert highly erodible cropland or other environmentally sensitive acreage to long-term vegetative cover such as tame or native grasses, wildlife plantings, trees, filterstrips, or riparian buffers.

For all CRP offers, the Natural Resources Conservation Service (NRCS) provides technical assistance, such as determining soil types and land eligibility, and assists the producer in developing a conservation plan that maximizes environmental benefits on enrolled acres.

The USDA's Farm Service Agency and the Commodity Credit Corporation administer CRP and issue the rental payment checks.

Continuous CRP

Since 1996, land owners have been able to sign up for certain high-priority conservation practices under the continuous CRP. These practices include filter strips, riparian buffers, shelter belts, field windbreaks, living snowfences, grassed waterways, shallow water areas for wildlife, salt-tolerant vegetation, cross wind trap strips, and wellhead protection areas.

With the CRP continuous signup, land owners can enroll land at any time. Unlike the regular signups, there is no national competition.

Beginning in April 2000, significant new incentives were added to the CRP continuous signup. These included a signup incentive payment of \$10 an acre for

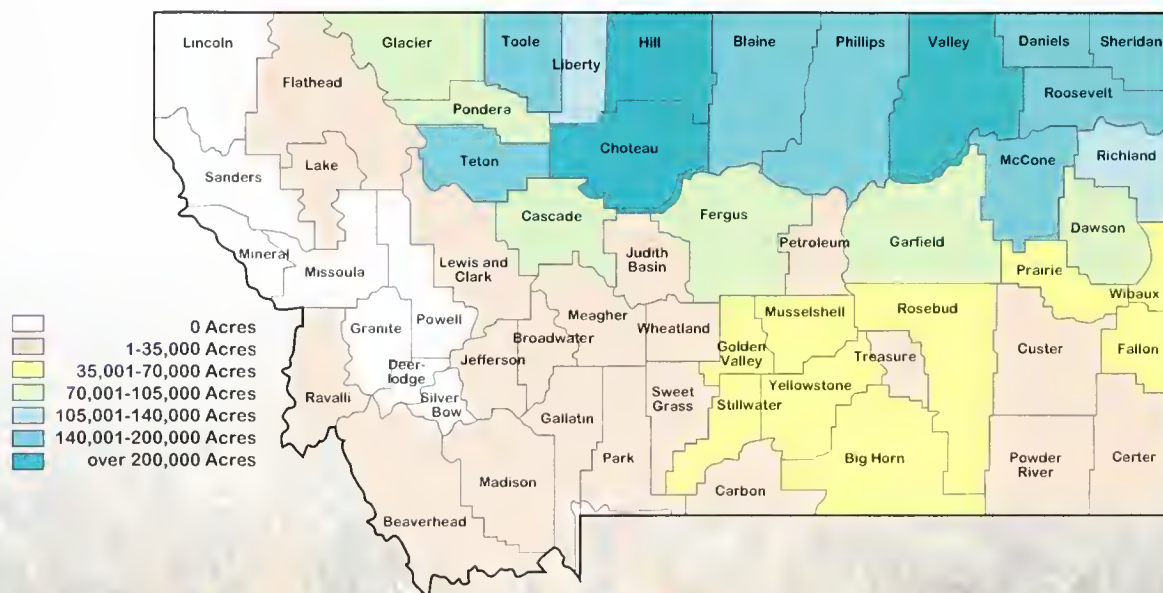
each year of the contract and a 40 percent practice incentive payment in addition to 50 percent cost-share provided for installing needed conservation practices.

Conservation Benefits

According to wildlife agencies and groups, CRP has had a definite positive impact on wildlife populations in Montana. Montana Fish, Wildlife & Parks has documented this impact on upland bird populations. The Montana pheasant harvest has grown from about 43,000 in 1986 to almost 121,000 in 1992, a threefold increase. Sharptail grouse and pheasants are being found in some areas of eastern Montana where they have not been documented before.

Waterfowl populations have also increased. With almost 12 million acres of CRP in the prairie pothole region of North Dakota, South Dakota, and Montana, experts believe that CRP land may be contributing as many as a million additional ducks to the fall flight each year. Large blocks of CRP adjacent to wetlands is improving the nesting success of prairie nesting ducks by as much as 20 to 50 percent in Montana by providing the needed combination of wetland habitat and upland nesting cover.

Currently Enrolled Acres of CRP
September 2000



Program Summary

NRCS is proud to continue providing on-site natural resource expertise to help Montana land owners and communities plan and apply conservation systems that improve and maintain environmental quality for all Montanans. More than 300 NRCS professionals in engineering, biology, agronomy, range and other sciences are located across the state to support private land conservation efforts.

This annual report covers one fiscal year, from October 1, 1999, to September 30, 2000. The following are highlights of NRCS annual activities.

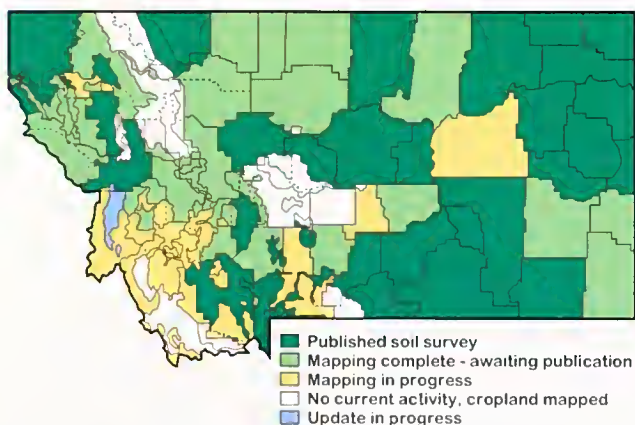
Soil Survey

NRCS publishes scientific inventories that name and classify soils according to a national system and provides information on the potential and limitations of the soil for various uses.

Soil survey inventory accomplishments in Montana for 2000 include completion of the Sweet Grass county area, 1,531,000 acres mapped for the first time. In addition, 33,000 acres were updated in the Bitterroot/Missoula/Ninemile area.

Fifty soil surveys were digitized and certified for SSURGO across nine states. In Montana, digitizing is complete with certification pending for Petroleum, Judith Basin, and Jefferson county areas. Digitizing is in progress for Deer Lodge, Lewis & Clark, Musselshell, Phillips, Richland, Roosevelt-Daniels, and Sheridan county areas. Digitizing will allow customers to receive computer generated maps of areas of interest.

**Soil Survey Mapping Status
September 2000**



Plant Materials

At plant materials centers across the country, scientists evaluate the growth and use of plant materials and cultural and management technologies for solving soil and water conservation problems. Plant materials and technologies are needed for range and pasture land, cropland, streambank and shoreline stabilization, wildlife habitat improvement, wetland enhancement, and revegetation and stabilization of human-caused environmental disturbances, such as construction on urban land, transportation, transmission, utility corridors, timber harvest, and strip mining of mineral resources.

The Bridger Plant Materials Center was involved in the release of six plants in 2000:

- Antelope germplasm slender white prairie clover
- High Plains germplasm Sandberg bluegrass
- Garnet germplasm mountain brome grass
- Dupuyer streambank germplasm silverberry
- Pondera floodplain germplasm silverberry
- 'Shaw' alfalfa

These plants were selected for good establishment and survival in Montana and Wyoming.

Grazing Lands Conservation Initiative (GLCI)

The Grazing Lands Conservation Initiative ensures that technical, educational, and related assistance is provided to those who own and manage private grazing land.

NRCS obligated \$31,700 for seven new GLCI demonstration projects in 2000. Funded since 1996, GLCI funds have supported 42 projects in 45 counties in Montana. Projects have focused on enhancing economic, social, and environmental stability of private grazing land.

Small Watershed Program (PL-566)

The Small Watershed Program helps urban and rural communities improve and develop water and land resources in watersheds of up to 250,000 acres. Projects can address flood prevention, erosion and sediment control, fish and wildlife habitat enhancement, wetland creation and restoration, irrigation, public recreation, water quality, and land treatment.

In 2000, NRCS completed the planning portion of the Buffalo Rapids Project, a 46,000-acre irrigated cropland project in Custer, Prairie, and Dawson counties. Funding was requested for the implementation of the plan in fiscal year 2002.

NRCS also constructed several structures on the Lower Birch watershed project in 2000, a pipe drop and a wasteway along with numerous canal check and turnout structures. NRCS also contracted for construction of an additional wasteway and a division. Design work is in progress for two large diversions and another wasteway to be constructed in 2001.

Snow, Water, and Climate Services

Montana's SNOTEL (SNOWpack TELEmetry) network collects data on snow water content, precipitation, and temperature. NRCS uses the SNOTEL network to monitor snow melt, temperature, and rainfall to provide water users, water managers, flood forecasters, and public interests with daily and weekly streamflow forecasts during the snowmelt peak runoff period.

In January 2000, NRCS issued its first spring and summer streamflow forecasts ranging from well below average to near average. It's a prediction that unfortunately came true. Streamflows in August ranged from near average to severely below average with several streams setting new record low flows. From the initial streamflow forecasts and surface water supply indexes there were areas in central Montana that were headed for surface water supply trouble. With below to well below average rainfall, the forecasts came to pass.

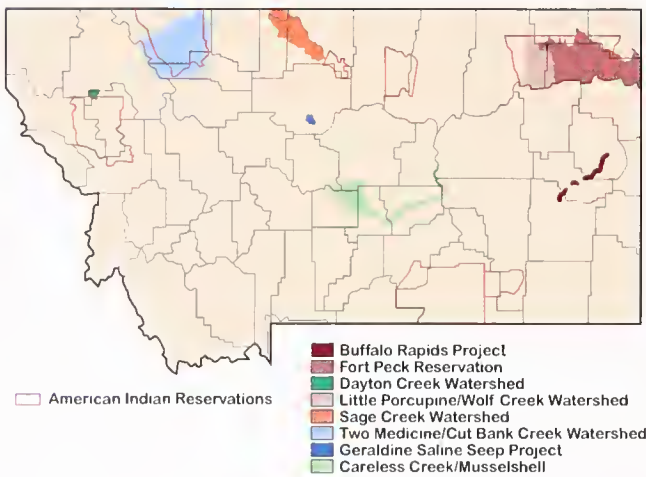
Cost-Share Programs

Environmental Quality Incentives Program (EQIP)

EQIP is a voluntary conservation program for farmers and ranchers to address serious threats to soil, water, and related natural resources through 5- to 10-year contracts. EQIP provides technical, financial, and educational assistance to maximize environmental benefits per federal dollar expended.

In 2000, more than 240 land owners developed long-term contracts through EQIP, utilizing cost-share dollars to help implement sound natural resource plans. The majority of EQIP contracts on rangeland, hay land, and cropland will also help ensure that high quality water is returned or maintained in streams and adequate supplies are available.

**Funded EQIP Priority Areas
Fiscal Year 2000**



Wildlife Habitat Incentives Program (WHIP)

WHIP is a voluntary program for people who want to develop and improve habitat for fish and wildlife on private land. WHIP provides both technical and cost sharing assistance through 10-year contracts.

In 2000, six contracts were written and 3,649 acres were addressed with wildlife habitat improvement as the main objective. A total of 109,090 acres in Montana are currently implementing conservation measures to improve habitat utilizing WHIP.

Wetlands Reserve Program (WRP)

WRP is a voluntary program to restore and protect wetlands on private property. The program offers options of permanent easements, 30-year easements, and restoration cost-share agreements of a minimum 10-year duration.

In 2000, a total of six applications covering 1,163 acres was approved for permanent easements and two applications covering 997 acres were approved for 30-year easements. One voluntary restoration contract totals 2.5 acres. The current backlog of offers not funded is 30.

Forestry Incentives Program (FIP)

FIP is a voluntary cost-share program to assist private land owners increase present and future supplies of timber products and improve multipurpose management through tree planting, timber stand improvement, and related practices on nonindustrial private forests.

NRCS obligated nearly \$57,000 in cost-share assistance to 19 private forest land owners in 2000. The bulk of the FIP contracts were for timber stand improvement on 500 acres of forest land, and approximately 15,000 trees were planted on 50 acres.

Conservation Reserve Program (CRP)

CRP is a voluntary program that results in the planting of sensitive cropland to vegetative cover for 10 to 15 years. NRCS provides technical assistance for CRP. CRP contract holders receive annual rental payments from the Farm Service Agency.

Montana land owners had 1,262 tracts on 263,629 acres accepted into CRP during Signup 20. Montana ranked first in the nation on the number of acres enrolled for this signup. With nearly 3.5 million acres currently enrolled in CRP, Montana is second in the nation, following Texas, for total acres in CRP. Annual rental payments total \$115 million in Montana. Nationally, 33.4 million acres are enrolled.

**Currently Enrolled Acres of CRP
September 2000**

